

REMARKS/ARGUMENTS

Applicants would like to thank Examiner Oladapo for the helpful and courteous interview held February 15, 2011, during which the above case was discussed.

During the interview Applicants stressed the fact that the claimed base oil has been limited to that used in the Examples herein, 2-methyl-3-methyl-2-[(3-methylbicyclo[2.2.1]hepto-2-yl)methyl]bicyclo[2.2.1]heptane, which has been shown to provide a lubricating oil having a superior combination of plural properties - high traction coefficient, maintenance of the friction coefficient, and strong anti-wear properties.

During the interview Applicant urged that the cited combination of references did not direct one of ordinary skill in the art to the particularly claimed combination of components as claimed herein, nor suggest the superior beneficial properties provided thereby.

For example, Tipton relates to traction fluid formulations for use in lubricating mechanical power transmitting equipment such as traction drives, etc. See, e.g., col. 1, lines 3-6. Tsubouchi, on the other hand, relates to media for transmitting ultrasonic waves. See, e.g., [0006] of the U.S. equivalent. In this regard the terms “transmission” and “transmitting” as used in the two references refer to very different principles and activities, and there is no art-accepted reason that one of ordinary skill in the traction fluid art would look to the ultrasonic wave transmitting art for guidance. Thus, there is no reason to use 2-methyl-3-methyl-2-[(3-methylbicyclo[2.2.1] hepto-2-yl)methyl]bicyclo[2.2.1]heptane (Tsubouchi) in Tipton’s traction fluid formulation. Watts fails to make up for that lacking in the combination of Tipton and Tsubouchi. Thus, there is no *prima facie* case herein.

In addition to this, Applicants have substantially narrowed the claims, and have presented new claims to preferred (B) acid phosphoric ester/phosphorous ester compounds noted at specification page 14, lines 10-14 and used in the several Examples (see

specification page 25, Table 2-2). These Examples and comparative Examples compare the present invention base oil to several materials suggested in Tipton, such as alpha olefins, naphthenic oils, etc. (see, e.g., col. 4, lines 19 and 39 of Tipton):

[0002] TABLE 2-1

Base oil	Composition	CED at 40°C (GPa)
Base oil 1	2-methyl-3-methyl-2-[(3-methylbicyclo[2.2.1] hepto-2-yl)methyl]bicyclo[2.2.1]heptane	0.234
Base oil 2	Naphthenic mineral oil (kinematic viscosity at 40°C: 27.9 mm <sup>2</sup> /s)	0.178
Base oil 3	Paraffinic mineral oil (kinematic viscosity at 40°C: 20.3 mm <sup>2</sup> /s)	0.128
Base oil 4	Poly- $\alpha$ -olefin (kinematic viscosity at 40°C: 30.0 mm <sup>2</sup> /s)	0.101

See specification page 25.

Further, the above-noted benefits of high traction coefficient, maintenance of the friction coefficient, and strong anti-wear properties are confirmed by comparison of Example 3 and Comparative Examples 4-6:

TABLE 4-1

	Examples		Comparative Examples		
	2	3	4	5	6
<b>Blending ratio (wt%)</b>					
Base oil 1	99.6	97.1			
Base oil 2			97.1		
Base oil 3				97.1	
Base oil 4					97.1
Additive 1	0.4	0.4	0.4	0.4	0.4
Additive 2		2.5	2.5	2.5	2.5
Additive 3					
Additive 4					
<b>Experimental results</b>					
Traction coefficient at 100°C	0.1020	0.0998	0.0552	0.0120	0.0050
<b>Total friction coefficient</b>					
Immediately after initiation of the test	0.13	0.133	0.123	0.117	0.117
After 60 min from initiation of the test	0.114	0.118	0.112	0.108	0.107
Wear width in block (mm)	0.71	0.75	0.74	0.83	0.82

and by comparison of Example 4 and Comparative Examples 7-9:

TABLE 4-2

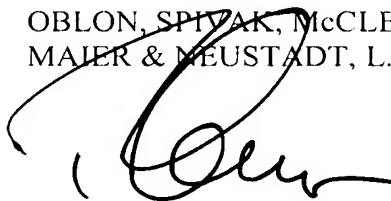
	Example 4	Comparative Examples		
		7	8	9
<u>Blending ratio (wt%)</u>				
Base oil 1	96.9			
Base oil 2		96.9		
Base oil 3			96.9	
Base oil 4				96.9
Additive 1	0.4	0.4	0.4	0.4
Additive 2	2.5	2.5	2.5	2.5
Additive 3	0.2	0.2	0.2	0.2
Additive 4				
<u>Experimental results</u>				
Traction coefficient at 100°C	0.0996	0.0550	0.0118	0.0050
<u>Total friction coefficient</u>				
Immediately after initiation of the test	0.145	0.138	0.125	0.122
After 60 min from initiation of the test	0.128	0.12	0.116	0.114
Wear width in block (mm)	0.81	0.78	0.83	0.85

For example, the composition of Example 3 shows total friction coefficient of 0.118 after 60 min. from initiation of the test, and this value ranges from 0.107-0.112 in Comparative Examples 4-6. Notably, such 5-10% improvement in power transmission efficiency has great importance in the field of Continuously Variable Transmissions. Moreover, Example 3 exhibits an anti-wear effect essentially equivalent to Comparative Example 4, and a greatly improved traction coefficient. Similar improvements are confirmed by the comparison of Example 4 and Comparative Examples 7-9. Furthermore, Comparative Examples 10-13 clearly illustrate that when the component (B) of the present invention is replaced with another extreme pressure agent, the friction coefficient is not maintained because the total friction coefficient of after 60 min. from initiation of the test is deteriorated (note, especially, Claims 27 and 28). Accordingly, the synergetic effect of claimed components (A) and (B) is clearly confirmed by reference to Examples 3-4 and Comparative Examples 4-13.

Accordingly, and in view of the discussion at the interview and the above amendments to the claims and remarks, Applicants respectfully submit that the outstanding rejection is unsustainable and deficient in that no *prima facie* case is presented, and that in addition Applicants have presented results sufficient to establish the patentability of their claimed invention. A Notice of Allowance is earnestly solicited.

Respectfully submitted,

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